

General Information or Other (PAR)		Event #	42844
Rep Org: TYCO VALVES AND CONTROLS LP		Notification Date / Time: 09/15/2006 19:38 (EDT)	
Supplier: TYCO VALVES AND CONTROLS LP		Event Date / Time: 09/15/2006 (EDT)	
		Last Modification: 09/15/2006	
Region: 1	Docket #:		
City: WRENTHAM	Agreement State: Yes		
County:	License #:		
State: MA			
NRC Notified by: MICHAEL MCBRIDE	Notifications:	EUGENE COBEY	R1
HQ Ops Officer: BILL GOTT		BINOY DESAI	R2
Emergency Class: NON EMERGENCY		PATRICK LOUDEN	R3
10 CFR Section:		CLAUDE JOHNSON	R4
21.21	UNSPECIFIED PARAGRAPH	VERN HODGE (email)	

IMPROPER VALVE SPRINGS IN PRESSURE RELIEF VALVES

The licensee provided the following information via facsimile:

Tyco Valves & Controls LP (TVC) manufactures, sells, and services Pressure Relief Valves (PRVs) to NRC licensees for use in NRC licensed facilities. There is a potential problem with one series of those PRVs, but TVC's analysis to date leads TVC to believe that there is not an imminent safety problem with the PRVs that would require the immediate shutdown of licensed nuclear facilities. Rather, TVC believes that there is adequate assurance that the public health and safety can and will be adequately protected until such time as it is possible to replace the spring(s) at issue. The background of this matter is as follows:

"The National Board of Boiler and Pressure Vessel Inspectors performed certification testing on PRVs manufactured by the TVC plant located in India (Tyco Sanmar Ltd). The valves tested by the National Board (NB) were the Crosby series JLT pressure relief valves. These valves are spring-loaded PRVs which are used to provide over-pressure protection for liquid applications. The Series JLT are certified to be in compliance with ASME Boiler and Pressure Vessel Code Sections III and VIII. The certification testing performed by the National Board indicated that these JLT valves did not meet ASME standards and so notified TVC. Thereafter, TVC performed its own testing on the JLT valves and confirmed the NB findings.

"TVC performed a root-cause analysis and determined that the Spring Selection Tables were inaccurate in that the Tables specified a spring with a spring rate which was too high for the adjusted set pressure. It was further determined that, in most cases, the Spring Selection Table specified the correct spring for the higher portion of the tabulated set pressure range; however, the Table specified a spring too strong for the lower portion of the range.

"The corrective action which has been taken by TVC is as follows:

1. The Spring Selection Tables are being revised and will take effect by 9/23/2006;

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General Information or Other (PAR)

Event # 42844

- 2. All of the safety-related PRVs which were affected by the Spring Selection Table have been identified;
- 3. A list of all nuclear facilities has been compiled;
- 4. A Product Safety Advisory is being drafted and will be forwarded to all nuclear facilities as identified in Exhibit A; and
- 5. The Product Safety Advisory recommends replacement of the spring.

"[TVC] believes that, while not in compliance with ASME, these PRVs do not pose a safety hazard inasmuch as there are many levels of conservatism built into the design of pressurized equipment and selection of PRVs such as:

- 1. These valves will open at the specified set pressure and will flow some capacity at the ASME specified overpressure of 10%. Further, based on our testing, these valves will flow the ASME certified capacity at an overpressure of not more than 20%. Most equipment will have been designed with a safety factor above the set pressure of at least 200%.
- 2. In sizing a PRV for an application, the "required capacity" is determined by the user and the next largest PRV is selected to assure that the ASME certified capacity of the ARV is always greater than the "required capacity" adding additional conservatism.
- 3. These valves have been supplied to the industry using these same spring selections for over 21 years without incident.

TVC has notified the affected NRC licensees: Arkansas Nuclear One, Beaver Valley, Calvert Cliffs, Clinton Nuclear Station, Columbia Generating Station, Davis-Besse, Fort Calhoun, Millstone Nuclear Power Station, Nine Mile Point, Oconee Nuclear Station, Peach Bottom, Salem Station, Seabrook Station, Wolf Creek Generating Station.

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Tyco Valves & Controls LP
Anderson Greenwood Crosby
43 Kendrick Street
Wrentham, MA 02093 U.S.A.

Tele: 508-384-3121
Fax: 508-384-5821

September 15, 2006

Via Facsimile (301-816-5151)

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Tyco Valves & Controls LP.; Submission Pursuant to 10 C.F.R. Part 21

Dear Sir or Madam:

Tyco Valves & Controls LP ("TVC"), a contractor to certain NRC licensees, and on behalf of itself and certain of its affiliates, hereby submits information in response to the notification requirements of 10 C.F.R. Part 21. TVC manufactures, sells, and services Pressure Relief Valves ("PRVs") to NRC licensees for use in NRC-licensed facilities. There is a potential problem with one series of those PRVs, but TVC's analysis to date leads TVC to believe that there is not an imminent safety problem with the PRVs that would require the immediate shutdown of licensed nuclear facilities. Rather, TVC believes that there is adequate assurance that the public health and safety can and will be adequately protected until such time as it is possible to replace the spring(s) at issue. The background of this matter is as follows:

The National Board of Boiler and Pressure Vessel Inspectors performed certification testing on PRVs manufactured by the TVC plant located in India (Tyco Sanmar Ltd). The valves tested by the National Board were the Crosby series JLT pressure relief valves. These valves are spring-loaded PRVs which are used to provide over-pressure protection for liquid applications. The Series JLT are certified to be in compliance with ASME Boiler and Pressure Vessel Code Sections III and VIII. The certification testing performed by the National Board indicated that these JLT valves did not meet ASME standards and so notified TVC. Thereafter, TVC performed its own testing on the JLT valves and confirmed the NB findings.

TVC performed a root-cause analysis and determined that the Spring Selection Tables were inaccurate in that the Tables specified a spring with a spring rate which was too high for the adjusted set pressure. It was further determined that, in most cases, the Spring Selection Table specified the correct spring for the higher portion of the tabulated set pressure range; however, the Table specified a spring too strong for the lower portion of the range.

Document Control Desk
U.S. Nuclear Regulatory Commission
September 15, 2006
Page 2

Re: Tyco Valves & Controls LP.; Submission Pursuant to 10 C.F.R. Part 21

The corrective action which has been taken by TVC is as follows:

- 1) The Spring Selection Tables are being revised and will take effect by 9/23/2006;
- 2) All of the safety-related PRVs which were affected by the Spring Selection Table have been identified;
- 3) A list of all nuclear facilities has been compiled as identified in Exhibit A, attached hereto;
- 4) A Product Safety Advisory is being drafted and will be forwarded to all nuclear facilities as identified in Exhibit A; and
- 5) The Product Safety Advisory recommends replacement of the spring.

We believe that, while not in compliance with ASME, these PRVs do not pose a safety hazard inasmuch as there are many levels of conservatism built into the design of pressurized equipment and selection of PRVs such as:

- 1) These valves will open at the specified set pressure and will flow some capacity at the ASME specified overpressure of 10%. Further, based on our testing, these valves will flow the ASME certified capacity at an overpressure of not more than 20%. Most equipment will have been designed with a safety factor above the set pressure of at least 200%.
- 2) In sizing a PRV for an application, the "required capacity" is determined by the user and the next largest PRV is selected to assure that the ASME certified capacity of the PRV is always greater than the "required capacity" adding additional conservatism.
- 3) These valves have been supplied to the industry using these same spring selections for over 21 years without incident.

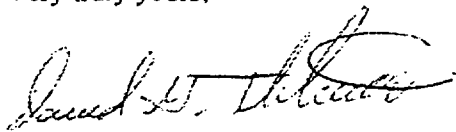
TVC continues to investigate this matter, and will inform you promptly of any further developments. We have notified all of the NRC licensed facilities listed on Exhibit A who may have an interest in this matter and we are communicating with them contemporaneously with the transmission of this letter to you.

Document Control Desk
U.S. Nuclear Regulatory Commission
September 15, 2006
Page 3

Re: Tyco Valves & Controls LP.; Submission Pursuant to 10 C.F.R. Part 21

You may contact the undersigned directly on this matter if you wish. We have also retained counsel, Messrs. Michael F. McBride, Brian D. O'Neill, and Ahren S. Tryon, with LeBoeuf, Lamb, Greene & MacRae LLP for this matter. We would appreciate it if you would serve them with copies of all correspondence or other communications regarding this matter. Their addresses are shown below.

Very truly yours,



Dave Thibault
General Manager
Anderson Greenwood Crosby
Nuclear Products

DT:mbb

Enclosures

cc(w/encls.): NRC Regional Administrators
Persons Shown on Exhibit A

Michael F. McBride, Esq.
Brian D. O'Neill, Esq.
Ahren S. Tryon, Esq.
LeBoeuf, Lamb, Greene & MacRae LLP
1875 Connecticut Avenue, N.W.
Washington, D.C. 20009-5728
(202)986-8000

Elizabeth Keating, Esq.
Chief Litigation Counsel
Tyco Valves & Controls, LP
934 Charter Street
Redwood City, CA 94063
(650)766-2906

10 CFR Part 21 Contacts

EXHIBIT A

Project	Set Pressure	10 CFT Part 21 Contact	Address 1	Address 2	Address 3	Address 4
ARKANSAS NUCLEAR ONE		Manager, Operating Experience M-ECH-595	Energy Operations	PO Box 31995		Jackson, MS 39286-1995
BEAVER VALLEY		Manager, Site Regulatory Compliance	Beaver Valley Power Station	PO Box 4		Shippingport, PA 15077
BRUNSWICK NUCLEAR POWER STATION		Site Vice President w/ cc: Site Supv. - Lic/Reg Prog	Brunswick Nuclear Plant	NC Hwy 86	Box 10429	Southport, NC 28461
CALVERT CLIFFS		Buyer	Calvert Cliffs Nuclear Power Plant	1650 Calvert Cliffs Parkway		Lusby, Maryland 20637
CLINTON NUCLEAR STATION		Plant Engineering Manager	Amergen Energy, An Exelon Co.	RR #3, Route 54 East	6 Miles East of Clinton	Clinton, IL 61727
COLUMBIA (WPPS)		Michael Woodruff, Buyer	Energy Northwest - Columbia (WPPS)	Snake River Warehouse Complex	North Power Plant Loop	Richland, WA 99352
DAVIS-BESSE		Plant Engineering Manager	Davis-Besse Mail Stop 1056	FENOC	5501 N. State, Route 2	Oak Harbor, OH 43449
FORT CALHOUN		Manager - Nuclear Licensing	Fort Calhoun Nuclear Station	PO Box 550	Mail Stop FC-2-4-ADMIN	Fort Calhoun, NE 68026-0050
MILLSTONE NUCLEAR PWR STATION		Director, Nuclear Licensing and Operation Support	Dominion Resources, Inc.	Innsbrook Technical Center	5000 Dominion Boulevard	Glen Allen, VA 23060
MILLSTONE UNIT #3		Director, Nuclear Licensing and Operation Support	Dominion Resources, Inc.	Innsbrook Technical Center	5000 Dominion Boulevard	Glen Allen, VA 23060

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10 CFR Part 21 Contacts

Project	Set Pressure	10 CFT Part 21 Contact	Address 1	Address 2	Address 3	Address 4
NINE MILE POINT		Procurement Technology	Nine Mile Point Nuclear Power Station L.L.C.	PO Box 63		Lycoming, NY 13093
OCONEE NUCLEAR STATION		OEA Manager, Nuclear Assessment Division	Duke Energy Corp.	Mail Code EC 05P	PO Box 1006	Charlotte, NC 28201-1006
PEACH BOTTOM		Manager - Licensing Section	Correspondence Control Desk	Exelon Nuclear Company	PO Box 160	Kennett Square, PA 19348
SALEM STATION		Operating Experience Group, NDAB	PSEG Nuclear, LLC	Mail Stop N21	PO Box 236	Hancocks Bridge, NJ 08038
SEABROOK STATION		Site Vice President / Manager - Nuclear Engineering / Procurement Engineering Supervisor / Record Management Supervisor	FPL Energy, Seabrook, LLC (FPLE Seabrook)	PO Box 300		Seabrook, NJ 03874
WOLF CREEK GENERATING STATION		WCNOC Manager Document Services	Wolf Creek	1550 Oxen Lane, NE	PO Box 411	Burlington, KS 66839

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LEBOEUF, LAMB, GREENE & MACRAE LLP

1875 CONNECTICUT AVE., N.W.
 SUITE 1200
 WASHINGTON, D.C. 20009-5728
 (202) 986-8000
 FACSIMILE: (202) 986-8102

FAX TRANSMISSION

FROM: Michael F. McBride	ID#: 0553	DATE: September 15, 2006
TEL: (202) 986-8050	PAGES: 1 of 6	CLIENT/MATTER NO.: 09398-00011

TO:	COMPANY:	FAX NO.:	CONFIRMING TELEPHONE NO.:
Operations Center	U.S. Nuclear Regulatory Commission	301-816-5151	301-816-5100

Comments/Message:

Please see the enclosed letter.

Michael F. McBride

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